UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/830,220 | 04/23/2004 | Takuto Yoshida | 040894-7026 | 9332 |

9629 7590 02/22/2007

MORGAN LEWIS & BOCKIUS LLP
1111 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 20004

| EXAMINER | |
|---|---|
| VELEZ, ROBERTO | |
| ART UNIT | PAPER NUMBER |
| 2829 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 02/22/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/830,220 | YOSHIDA ET AL. | |
| | Examiner | Art Unit | |
| | Roberto Velez | 2829 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *19 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 January 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/04,02/06,07/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. The Final Rejection Mailed on 10/20/2006 has been vacated. However, a new Final Rejection has been applied as discussed below.

### *Response to Arguments*

2. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Howard et al. (US Pat. 6,102,709)*** in view of ***Sweet et al. (US Pat. 6,784,679)***.

Regarding claim 1, ***Howard et al.*** shows (Figures 1-6) an inspection coaxial probe, comprising: a conductive block [120, 114], formed with a first face (top side of [114]), a second face (bottom side of [120]) and a through hole (where [50] goes through) connecting the first face (top side of [114]) and the second face (bottom side of [120]); a contact probe [86, 90, 76], comprising: a conductive pin [90]; and a conductive plunger [76, 86], retractably provided in at a first end of the pin [90], (Column 4, Lines 20-25) the plunger [76] being to be brought into contact with a device [110, 112] to be inspected; and a first retainer [70], comprising a first insulative member [70] that retains the first end of the pin

[90] is retained in the vicinity of the first face (top side of [114]) of the block [114, 120], such that the pin [90] is coaxially held within the through hole (where [50] goes through) and such that an outer periphery of a part the pin [90] directly opposes an interior wall of the through hole (where [50] goes through).

***Howard et al.*** fails to disclose a conductive pipe and an outer periphery of a part of the pipe directly opposes an interior wall of the through hole while forming an air gap there between. However, ***Sweet et al.*** shows (Fig. 2) a contact probe [124, 122, 216], comprising: a conductive pipe [216] and an outer periphery of a part of the pipe [216] directly opposes an interior wall of the through hole while forming an air gap [214] there between.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of ***Sweet et al.*** into the device of ***Howard et al.*** by replacing the contact probe [124, 122, 216] comprising: a conductive pipe [216] of ***Sweet et al.*** for the contact probe [86, 90, 76], comprising: a conductive pin [90] of ***Howard et al.*** while forming an air gap there between [214]. The ordinary artisan would have been motivated to modify ***Sweet et al.*** in the manner set forth above for the purpose of providing electrical isolation (Col. 3, Lines 11-13).

Regarding claim 2, the combination of ***Howard et al.*** and ***Sweet et al.*** discloses everything as claimed above in claim 1; in addition, ***Howard et al.*** shows (Figures 1-6) the first insulative member [70] is a substrate provided on the first face (top side of [114]) of the block [114, 120], and formed with a recess

(where [90] is located in [70] as shown in Fig. 1) and a through hole [74] communicated with the recess (where [90] is located in [70] as shown in Fig. 1); and the first end of the pipe [90] is fitted into the recess (where [90] is located in [70] as shown in Fig. 1) such that the plunger [76] coaxially extends through the through hole [74] of the substrate [70].

Regarding claim 3, the combination of ***Howard et al.*** and ***Sweet et al.*** discloses everything as claimed above in claim 1; in addition, ***Howard et al.*** shows (Figures 1-6) a first end portion (top side of [114]) of the through hole [118] of the block [114, 120] is narrowed (as shown in Fig. 3); the first insulative member [70] is a spacer formed with a recess (where [90] is located in [70] as shown in Fig. 1) and a through hole [74] communicated with the recess (where [90] is located in [70] as shown in Fig. 1); and the first insulative member [70] is inserted into the first end portion (top side of [114]) of the through hole [118] and the first end of the pipe [90] is fitted into the recess (where [90] is located in [70] as shown in Fig. 1), such that the plunger [76] coaxially extends through the through hole [74] of the spacer [70] and the through hole [118] of the substrate [70].

Regarding claim 4, the combination of ***Howard et al.*** and ***Sweet et al.*** discloses everything as claimed above in claim 1; in addition, ***Howard et al.*** shows (Figures 1-6) a conductive plate [114], formed with a first recess [116] and a first through hole [118] communicated with the first recess [116], the plate [114] being provided on the first face of the block [114, 120], wherein: the first

insulative member [70] is a spacer [70] formed with a second recess (where [90] is located in [70] as shown in Fig. 1) and a second through hole [74] communicated with the second recess (where [90] is located in [70] as shown in Fig. 1); and the first insulative member [70] is inserted into the first recess [116] and the first end of the pipe [90] is fitted into the second recess (where [90] is located in [70] as shown in Fig. 1), such that the plunger [76] coaxially extends through the first through hole [118] , the second through hole [74] and the through hole [118] of the block [114, 120].

Regarding claim 5, the combination of ***Howard et al.*** and ***Sweet et al.*** discloses everything as claimed above in claim 1; in addition, ***Howard et al.*** shows (Figures 1-6) a second retainer [80], further comprising a second insulative member [80] through which a second end of the pipe [90] is retained in the vicinity of the second face (bottom side of [120]) of the block [114, 120], (Column 4, Lines 20-33) wherein the contact probe [76, 90, 86] is electrically connected to a wiring board [130] on which an inspection circuit [110] is provided via the second end of the pipe [90].

Regarding claim 6, the combination of ***Howard et al.*** and ***Sweet et al.*** discloses everything as claimed above in claims 1 and 5; in addition, ***Howard et al.*** shows (Figures 1-6) a first recess (where [80] is located in [120] as shown in Figures 5-6) is formed on the second face (bottom side of [120]) of the block [114, 120]; the second insulative member [80] is a spacer formed with a second recess (where [90] is located in [80] as shown in Fig. 1) and a through hole [82]

communicated with the second recess (where [90] is located in [80] as shown in Fig. 1); the spacer [80] is fitted into the first recess (where [80] is located in [120] as shown in Figures 5-6) and the second end of the pipe [90] is fitted into the second recess (where [90] is located in [80] as shown in Fig. 1), such that the second end of the pipe [90] is electrically connected to the wiring board [130] via the through hole [82] of the spacer [80], while the spacer [80] is held by the wiring board [130] within the first recess (where [80] is located in [120] as shown in Figures 5-6).

Regarding claim 7, the combination of ***Howard et al.*** and ***Sweet et al.*** discloses everything as claimed above in claim 1; in addition, ***Howard et al.*** shows (Figures 1-6) a wiring board [130], on which an inspection circuit [110] is provided, and to which a second end of the pipe [90] is electrically connected.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over ***Howard et al. (US Pat. 6,102,709)*** and ***Sweet et al. (US Pat. 6,784,679)*** as applied to claim 1 above, and further in view of ***Corwith (US Pat. 6,037,787)***.

Regarding claim 8, the combination of ***Howard et al.*** and ***Sweet et al.*** discloses everything as claimed above in claim 1.

The combination of ***Howard et al.*** and ***Sweet et al.*** fails to disclose wherein the contact probe further comprises a spring inserted in the conductive pipe to force the conductive plunger outwardly. However, ***Corwith*** discloses (Column 3, Lines 60-65) wherein the contact probe [354, 355] further comprises

a spring inserted in the conductive pipe to force the conductive plunger outwardly.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of ***Corwith*** into the device of the combination of ***Howard et al.*** and ***Sweet et al.*** by including a spring inside the conductive pipe of the contact probe. The ordinary artisan would have been motivated to modify the combination of ***Howard et al.*** and ***Sweet et al.*** in the manner set forth above for the purpose of (Column 3, Lines 60-65) biasing the plungers outwardly from the barrels to make contact with the inspection device.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

7. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberto Velez whose telephone number is 571-272-8597. The examiner can normally be reached on Monday-Friday 8:00am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Ha can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Roberto Velez
Patent Examiner

HA TRAN NGUYEN
SUPERVISORY PATENT EXAMINER